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supply means and concentrated raw water discharge means are assembled in a single frame as a unit.

REMARKS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-4, 6-8 and 23-36 are pending in the application; Claims 1-4 and 6-8 having been withdrawn from consideration, Claims 9-22 having been canceled, and Claims 23-36 having been amended. Applicants note that new Claims 23-36 recite substantially the same subject matter as Claims 9-22 except that former Claim 12 has been divided and rewritten as new Claims 26 and 27. Thus, no new matter has been added.

The claimed invention is directed to a desalination apparatus comprising at least one evaporation can, externally supplied by raw water supply, and a heat exchanger, supplied by heretofore unused low temperature waste heat, which is placed in raw water in the evaporation can so as to generate water vapor in the evaporation can. A condenser connected to the evaporation can and placed in raw water in a raw water tank cools the water vapor and obtains distilled water. A distilled water tank is connected to the condenser for receiving and storing the distilled water. Vacuum means is associated with the evaporation can for evacuating the evaporation can and depressurizing an inside thereof for a predetermined period upon study of a desalinating operation so as to promote generation of water vapor in the evaporation can.

Since the claimed invention utilizes heretofore unused low temperature waste heat, the construction of a desalination apparatus becomes simpler, and the operation of the apparatus is stabilized¹

In the outstanding Office Action, Claims 9-22 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as unpatentable over the allowed claims of co-pending Application No. 09/214,010. However, Applicants respectfully assert that there are substantial differences between the invention as claimed in Claims 23-36 and the co-pending application.

The co-pending application is directed to utilizing solar energy as a heating energy in the desalination apparatus. The co-pending application includes a heat collector for heating a heating medium and a thermosiphon for circulating the heating medium through the desalination apparatus.

The claimed invention does not use solar energy and does not include a heat collector nor a siphon. As noted above, the present invention utilizes heretofore unused low temperature waste heat, thus enabling construction of a simpler and more compact apparatus. Applicants therefore assert that the two inventions are completely different from one another. Thus, the rejection is believed to be overcome.

Claims 9-22 were rejected under 35 U.S.C. § 112, second paragraph, as indefinite. However, Claims 23-36 have been written in conformity with standard U.S. patent practice. Thus, these rejections are believed to be moot.

Claims 9-22 were rejected under 35 U.S.C. § 103(a) as unpatentable over GB '025 in view of any one of EP '920, Pfenninger '747, Sephton '513, or Shigenaka et al.. However,

¹The discussion of Industrial Applicability, in the specification, page 33, line 15 to page 35, line 24.

Applicants respectfully assert that the new Claims 23-36 define over the combination of the applied references.

In GB '025, each time the water level in the evaporator 7 drops to a predetermined level, new sea water is continuously supplied to the evaporator 7 until it reaches a predetermined level.² As a result, the pressure in the evaporator 7 rises requiring constant evacuation of the evaporator 7 by operation of the vacuum pump 49.

Therefore in GB '025 continuous operation of the vacuum pump 49 for maintaining the vacuum condition inside the evaporator 7 is necessary. There is no teaching or suggestion in GB '025 of operating the vacuum means for a predetermined period.

Applicants further note that EP '920, Pfenninger '747, Sephton '513, or Shigenaka et al also fail to teach or suggest operating the vacuum means for a predetermined period.

In the claimed invention, the vacuum means is operated for a predetermined period. While evaporation and condensation of the raw water proceeds, operation of the vacuum means is rendered unnecessary. Since GB '025 does not teach or suggest operating the vacuum means for a predetermined period none of the remaining references cure the defects of GB '025, the amended claims define over the applied references. Thus, the rejection is believed to be overcome.

Claims 9-22 were rejected under 35 U.S.C. § 103(a) as obvious over 09/214,010. However, Applicants note that since the reference and the invention as claimed in new Claims 23-36 were assigned to the same entity, the reference does not qualify as prior art for the purpose of obviousness as suggested in the Office Action³. Thus, the rejection is believed to be overcome.

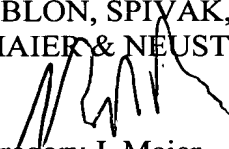
²See GB '025, page 4, lines 5-11.

³See 35 U.S.C. § 103 (c)

Consequently, in view of the above discussion, Applicants respectfully submit that the pending claims are in condition for formal allowance, and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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IN THE CLAIMS

9-22. (Canceled)

23-36. (New)